

Date: Thursday, 10/04/2008 2:46:39 PM  
User: Linda Lacelle

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: VERTICAL REF DOOR
Job Number	: 38522		
Estimate Number	: 12741		
P.O. Number	:	Part Number	: EA2046925
This Issue	: 10/04/2008 S.O. No. :	Drawing Number	: D2046901
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 10/04/2008 Type : LARGE FAB ASSY	Drawing Revision	: 1
Previous Run	: 30784	Material	:
Written By	:	Due Date	: 11/04/2008 Qty: 1 Um: Each
Checked & Approved By	:		
Comment	: rev A 07.02.21 new issue EC		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

ISSUE P.O. 6116  
EAGLE COPTERS

C 208/04/10 ①

2.0	EA2046925	ARM SUB-ASSEMBLY
-----	-----------	------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
ARM SUB-ASSEMBLY

3.0	OUTSIDE SERVICE	OUTSIDE SERVICES
-----	-----------------	------------------



Comment: Sub-Contracting OUTSIDE SERVICES

## EAGLE

Pick:Qty Part Number Description Batch

1	EA20469-25	23	w/o 44499
1	EA20469-28		w/o 44499
1	EA20469-22		w/o 44499
1	EA20469-26		w/o 44499
1	EA2049-27		w/o 44499

Attach serviceable tags

Fabricate in accordance with D412-711

Certificate of conformity required

C 208/04/10 ① Apr 11/08

Date: Thursday, 10/04/2006 2:40:00 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: VERTICAL REF DOOR

Job Number: 38522

Part Number: EA2046925

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC5

INSPECT WORK TO CURRENT STEP



AS

Comment: INSPECT WORK TO CURRENT STEP

5.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



AS

Comment: INSPECT 100% KITS FOR COMPLETENESS

6.0

PACKAGING 1

PACKAGING RESOURCE #1



AS

Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

7.0

QC21

FINAL INSPECTION/W/O RELEASE



①

Comment: FINAL INSPECTION/W/O RELEASE

2008/04/11

Job Completion



u 08-04-11

**EAGLE COPTERS MAINTENANCE LTD**

823 McTAVISH ROAD N.E. CALGARY ALBERTA T2E 7G9

D.O.T. APPROVAL No. **6-81**

Nomenclature

Manufacturer

Part No. **EA20467.25**

Total time

T.S.O.

Type/Model

Serial No.

Work Order

Overhaul ☐

Repair ☐

Modification ☐

Removal ☐

NEW ☒

Inspected ☒ Tested ☐

Previous Certification **None**

The maintenance described has been performed in accordance with the applicable standards of airworthiness.

DATE

NAME OF AUTHORIZED INSPECTOR

DEC NO. / STAMP

Details of outstanding work and other information on reverse

**687037**

**MAINTENANCE RELEASE**

Date: Thursday, 10/04/2008 2:46:39 PM  
 User: Linda Lacelle

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	VERTICAL REF DOOR
<b>Job Number</b> :	38522		
<b>Estimate Number</b> :	12741		
<b>P.O. Number</b> :		<b>Part Number</b> :	EA2046925
<b>This Issue</b> :	10/04/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D2046901
<b>First Issue</b> :	10/04/2008	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	30784	<b>Drawing Revision</b> :	1
<b>Written By</b> :		<b>Material</b> :	
<b>Checked &amp; Approved By</b> :		<b>Due Date</b> :	11/04/2008
<b>Comment</b> :	rev A 07.02.21 new issue EC	<b>Qty:</b>	1
		<b>Um:</b>	Each

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

ISSUE P.O. 6116  
 EAGLE COPTERS

*C'Lo 8/04/10 ①*

2.0	EA2046925	ARM SUB-ASSEMBLY
-----	-----------	------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

ARM SUB-ASSEMBLY

3.0	OUTSIDE SERVICE	OUTSIDE SERVICES
-----	-----------------	------------------



Comment: Sub-Contracting OUTSIDE SERVICES

EAGLE

Pick:Qty Part Number Description Batch

1	EA20469-29	_____
1	EA20469-28	_____
1	EA20469-22	_____
1	EA20469-26	_____
1	EA2049-27	_____

Attach serviceable tags

Fabricate in accordance with D412-711

Certificate of conformity required

Date: Thursday, 10/04/2008 2:46:39 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: VERTICAL REF DOOR

Job Number: 38522

Part Number: EA2046925

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

7.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



REFERENCE ONLY

AN3 BOLT  
AN960-10 WASHER  
4 PLACES

17

16

21

15

13

17

18 (REPLACES ORIGINAL DOOR SKIN)

5.6  
RET

10

12

7/8" TYP  
SEE NOTE 3

CONTINUE RIVETS  
BENGAHY ITDM 21  
USNC MS20470AD3  
RIVETS

MS27038C-1-D6 SCREW  
AN960-10 WASHER  
AN356-1032 ANCHOR NUT  
16 PLACES  
LOCATE ON ASSEMBLY

The diagram illustrates the instrument panel and its associated wiring harness. At the top, a rectangular panel (15) contains several circular gauges and indicator lights. Callouts identify the functions of these instruments: SPARE, % TORQUE, MASTER CAUTION, SPARE, SPARE, N/A, NOT REQUIRED, ENG. FIRE AFT, FIRE WARNING, ENG. # 2 FIRE, ENG. OVER TEMP. WARNING LIGHT, ENG. FIRE FWD, ENG. # 1 FIRE, ENG. OVER TEMP. WARNING LIGHT, DUAL TACH., SPARE, DUAL TACH., TRIPLE TACH., DUAL % TORQUE, DUAL TACH., and % TORQUE. Below the panel, a cross-section labeled 'SECTION B - B' shows the internal wiring and components. To the right, a larger assembly labeled 'SECTION C - C' shows the wiring harness (11) connected to the panel. It includes a master battery disconnect switch (14) and various relays and connectors. Callouts specify rivet locations (12, 13, 14, 15, 16, 17), a screw location (18), and a nut location (19). A note indicates to 'CONTINUE RIVETS BENEATH ITEM 14 USING MS20426A03 RIVETS'. A legend at the bottom right defines the symbols for 'FOR WIRING SCHEMATIC SEE QWG. 02046001' and 'SEE NOTE 7'. A note on the left side of the harness assembly states 'EXISTING RIB SEE NOTE 5'. A note on the right side of the harness assembly states 'MS27039-0807 SCREW NAS695A08 ANCHOR NUT 20 PLACES SEE NOTE 6'. A note at the bottom right states 'SEE NOTE 8'.

## NOTES

2. INSTALL ALL RIVETS IN ACCORDANCE WITH AC43.13-1B, PAR 4-58, AND FIG. 4-6 USING THE FOLLOWING LEGEND:
  - /- EXISTING RIVET (REF)
  - + MS20470AD3
  - \* MS20470AD4
  - @ MS20426AD3
  - o MS20426AD4
3. PICK UP EXISTING RIVET HOLES IN DOOR THROUGHOUT ENTIRE PANEL.
4. CUT DOWN EXISTING RIB AS SHOWN
5. DRILL HOLES IN DOOR AND INSTALL ANCHOR NUTS ON ASSEMBLY TO MATCH HOLES IN PARTS 13 & 14.
6. INSTRUMENTS FITTED INTO DOOR ARE EITHER REMOVED FROM LEFT HAND INSTRUMENT PANEL OR ARE PROVIDED AS EXTRA INSTRUMENTS. WIRING ROUTED THROUGH DOOR AND BEHIND LEFT SIDE INSTRUMENT PANEL AND PLUGGED INTO LEFT SIDE INSTRUMENT PANEL. INSTRUMENT WIRING IN DOOR BUNDLED AND BOUND WITH CORD TO PROVIDE PROTECTIVE WIRE LENGTH TO ALLOW FULL OPENING OF DOOR.

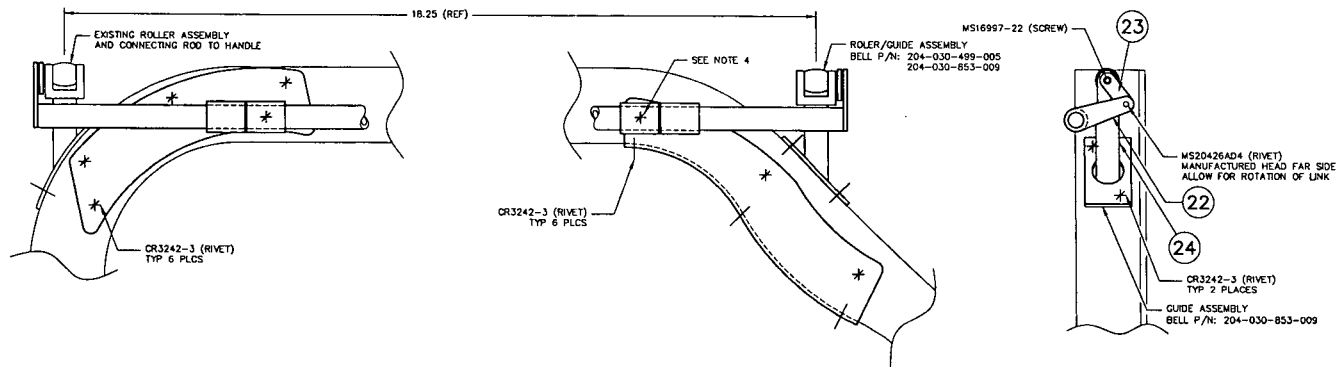
QTY.	DASH NO.	DESCRIPTION	PART NO.	QTY.	DASH NO.	DESCRIPTION	PART NO.
1	28	ARM GUIDE	E20469-28	1	13	INSTRUMENT WINDOW	E20469-13
1	27	DOOR PLATE	E20469-27	1	12	FORWARD RIB	E20469-12
1	26	DOOR PLATE	E20469-26	1	11	ANGLE	E20469-11
25	25	ARM	E20469-25	1	10	REARWARD RIB	E20469-10
1	24	ROD	E20469-24	1	9	ANGLE	E20469-9
2	23	LNK	E20469-23	1	8	PLACARD - INSTRUMENT PANEL	E20469-08
2	22	LOG	E20469-22	1	7	ANGLE	E20469-07
1	21	DOOR COVER PANEL	E20469-21	6	6	ALUMINUM STRIP	E20469-06
20		FLIGHT MANUAL SUPPLEMENT 2148, 2148-1	E21269-20	5	5	RUBBER STRIP	E20469-05
20		FLIGHT MANUAL SUPPLEMENT 212, 412	E21269-20	1	4	DOOR LATCH ASSEMBLY	E20469-04
20		FLIGHT MANUAL SUPPLEMENT 205A, 205A-1	E20569-20	1	3	PLEXIGLASS BUBBLE WINDOW	E20469-03
1	20	FLIGHT MANUAL SUPPLEMENT 2048	E20469-20	2		INSTALLATION - ILLUMINATED INSTRUMENTS	
1	19	EAGLE SERVICE INSTRUCTION	E20469-19	1		INSTALLATION - BUBBLE WINDOW	
2	1	DASH NO.		2	1	DASH NO.	

WEIGHT AND BALANCE					LIST OF MATERIALS (CONTINUED)		QTY.		LIST OF MATERIALS	
ITEM	DESCRIPTION	WEIGHT (LBS.)	LONGITUDINAL ARM MOMENT (LB.-IN.)	LATERAL ARM MOMENT (LB.-IN.)	BASIC CODE	DASH NO. FOR DIA IN-HEAD HEAD NEAR SIDE F-HEAD HEAD FAR SIDE	APPROVALS	DATE	AERO DESIGN LTD.	
1 & 2	NET CHANGE WHEN VERTICAL SIGHTING DOOR REPLACES STANDARD DOOR.	2.0	+50.8	+101.6	-40.0	-80.0	DRAWN: E. BURGIN	28 SEP 91	CONSTRUCTION OF DOOR FROM 1046 McFARLANE ROAD N.E., CALGARY, ALB. T2E 7G8	
	INSTRUMENT POSITION CHANGE (NET)		+45.0		-186.0		CHECKED:		EAGLE COPTERS LTD.	
	NET CHANGE	2.0	73.3	+146.6	-133.0	-266.0	STRESS:		825 McFARLANE ROAD N.E., CALGARY, ALBERTA, T2E 7G8	
							UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:		BELL 204, 205, 212 & 214	
							ANGLES		PREFERRENCE DOOR	
							DEG/ALS		INSTALLATION	
							X.XXX ±0.010		SCALE 1 : 3	A1 D2046901
							X.XX ±0.03		SHEET 2 OF 3	
							X.X ±0.1			REV. 5

REFERENCE ONLY

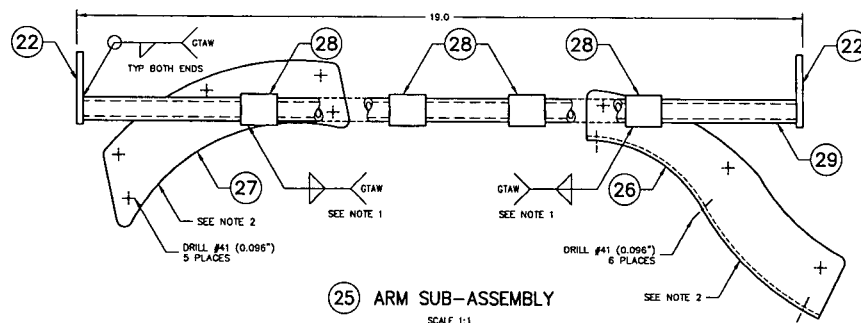
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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
1	INNER PAIR OF ARM GUIDES CHANGED FROM WELDED TO RIVETED	DW	15 AUG 2000



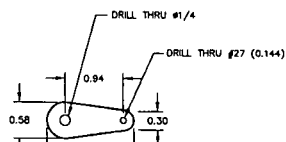
UPPER DOOR LATCH ASSEMBLY

SCALE 1:1



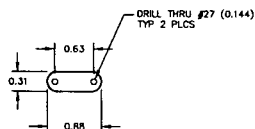
ARM SUB-ASSEMBLY

SCALE 1:1



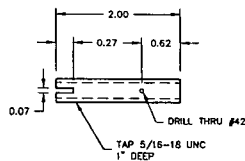
LUG

SCALE 1:1



LINK

SCALE 1:1



ROD

SCALE 1:1



ARM GUIDE

SCALE 1:1

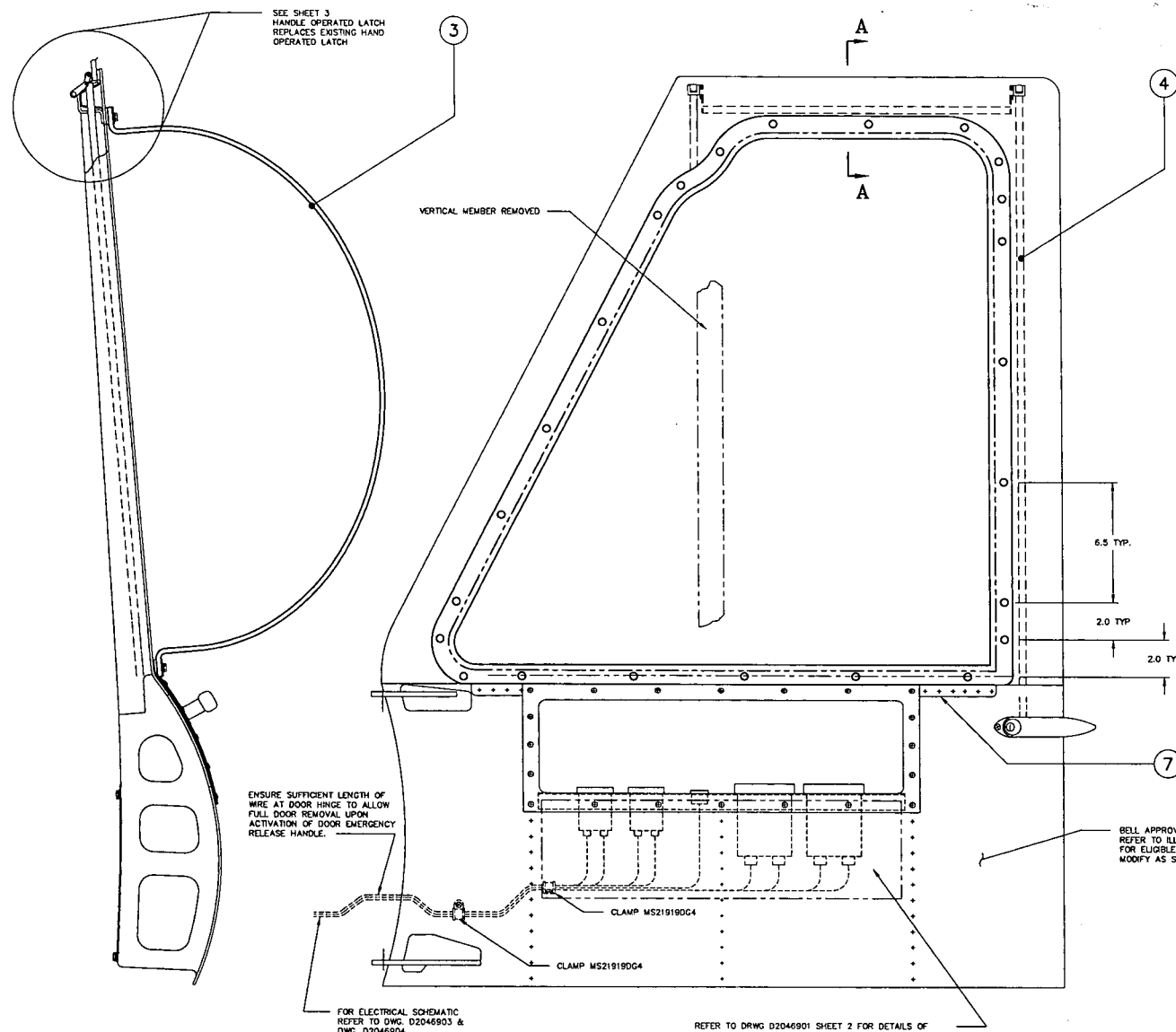
NOTES FOR SHEET 3.

- WELDING OF 4130 STEEL ALLOY TO BE COMPLETED BY GTAW METHOD TO AMS2685C. WELDING ROD SHALL CONFORM TO AWS E4374 OR LATER REVISION.
- HEAT AND FORM DOOR PLATES (ITEM 26 & ITEM 27) TO SHAPE OF DOOR JAM. PLOT HOLE LOCATIONS ARE APPROXIMATE. MAINTAIN 20 CODE DISTANCE.
- THOROUGHLY DEGREASE, PRIME, AND PAINT ALL PIECES AFTER ASSEMBLY.
- OUTER PAIR OF ARM GUIDES (ITEM 28) WELDED TO DOOR PLATES AS SHOWN. INNER PAIR OF ARM GUIDES LEFT LOOSE UNTIL ASSEMBLY WITH DOOR AND THEN FASTENED TO ARM WITH CR3242-3 RIVETS AFTER ARM ALIGNMENT.

QTY.	DASH NO.	DESCRIPTION	PART NO.	MATERIAL	MATERIAL SPEC.	STOCK SIZE
1	29	ARM	EA20469-29	4130 STEEL	MIL-T-8736	#3/8 O.D. x 0.093 WALL
4	28	ARM GUIDE	EA20469-28	4130 STEEL	MIL-T-8736	#1/2 O.D. x 0.063 WALL
1	27	DOOR PLATE	EA20469-27	MILD STEEL		0.063" SHEET
1	26	DOOR PLATE	EA20469-26	MILD STEEL		0.063" SHEET
1	25	ARM SUB-ASSEMBLY	EA20469-25			
1	24	ROD	EA20469-24	4130 STEEL	MIL-T-8736	#3/8 O.D. x 0.093 WALL
2	23	LINK	EA20469-23	4130 STEEL	MIL-S-18729	0.063" SHEET
2	22	LUG	EA20469-22	4130 STEEL	MIL-S-18729	0.063" SHEET
1	21	DOOR COVER PANEL	EA21469-21			
1	20	FLIGHT MANUAL SUPPLEMENT 214B, 214B-1	EA21469-20			
1	20	FLIGHT MANUAL SUPPLEMENT 212, 412	EA21269-20			
1	20	FLIGHT MANUAL SUPPLEMENT 205A, 205A-1	EA20569-20			
1	20	FLIGHT MANUAL SUPPLEMENT 204B	EA20469-20			
1	19	EAGLE SERVICE INSTRUCTION	EA20469-19			
1	18	DOOR INNER SKIN	EA20469-18			
1	17	ANGLE	EA20469-17			
1	16	ARM REST ASSEMBLY	EA20469-16			
1	15	INSTRUMENT PANEL	EA20469-15			
1	14	WINDOW RETAINER	EA20469-14			
1	13	INSTRUMENT WINDOW	EA20469-13			
1	12	FORWARD RIB	EA20469-12			
1	11	ANGLE	EA20469-11			
1	10	REARWARD RIB	EA20469-10			
1	9	ANGLE	EA20469-09			
1	8	PLACARD - INSTRUMENT PANEL	EA20469-08			
1	7	ANGLE	EA20469-07			
1	6	ALUMINUM STRIP	EA20469-06			
1	5	RUBBER STRIP	EA20469-05			
1	4	DOOR LATCH ASSEMBLY	EA20469-04			
1	3	PLEXIGLASS BUBBLE WINDOW	EA20469-03			
1	2	INSTALLATION - DOOR MOUNTED INSTRUMENTS				
1	1	INSTALLATION - BUBBLE WINDOW				

BASIC CODE	DASH NO. FOR DIA	DASH NO. FOR LENGTH	APPROVALS	DATE	AERO DESIGN LTD.			
D=IMPLE DGT = # OF SHEETS C=COUNTERSINK	N=MFD HEAD NEAR SIDE F=MFD HEAD FAR SIDE		DRWING E. BURGOIN	26 AUG 1991	CONSULTING ENGINEERS TRANSPORT CANADA APPROVALS, 2ND FLOOR 1046 BAYVIEW ROAD S.E., CALGARY, AB, T2E 7G8			
BASIC CODES: BJ = MS20470AD BB = MS20426AD LZ = NAS1097AD CK = MS2047000	* INSTALL NEW RIVET + REMOVE/REPLACE RIVET - EXISTING RIVET		CHECKED:		EAGLE COPTERS LTD.			
			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:		823 McTAVISH ROAD N.E., CALGARY, ALBERTA, T2E 7G9 BELL 204, 205, 212 & 214 VERTICAL REFERENCE DOOR INSTALLATION			
			DECIMALS X.XXX ±0.010 X.XX ±0.03 X.X ±0.1		SCALE AS NOTED	DWG. SIZE A1	DWG. NO. D2046901	REV. 1
			ANGLES ±1/2°		SHEET 3 OF 3			

# REFERENCE ONLY



## NOTES

1. DRILL HOLES FOR SCREWS PICKING UP EXISTING RIVET HOLES AT APPROXIMATELY THE DISTANCES SHOWN.

2. INSTALL ALL RIVETS IN ACCORDANCE WITH AC43.13-18, PAR 4-58, AND FIG. 4-6 USING THE FOLLOWING LEGEND:

- ✦ EXISTING RIVET (REF)
- ✦ MS20470AD3
- ✦ MS20470AD4
- ✦ MS20426AD3
- ✦ MS20426AD4

3. PICK UP EXISTING RIVET HOLES IN DOOR THROUGHOUT ENTIRE PANEL.

4. PLACARD INSTRUMENT PANEL WITH ITEM 8 AS SHOWN.

1

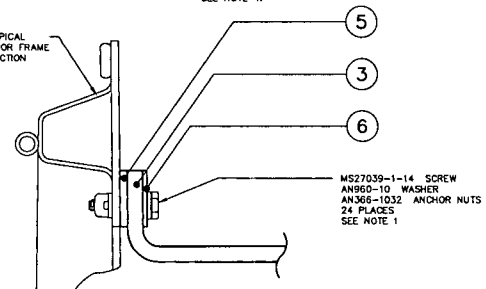
## INSTALLATION - BUBBLE WINDOW

SCALE 1:3

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
4	ADDED SHEET 3 / MODIFIED DOOR INNER SKIN / CH'D DOOR LATCH	SV	2 APR 1998
5	LARGER INST. WINDOW / LARGER RIBS / INST. PANEL CHANGED	DW	15 AUG 2000

**CAUTION**  
Vertical Sighting Bubble  
Door fitted - Ensure top  
latch secured for flight.

TYPICAL  
DOOR FRAME  
SECTION



## SECTION A - A

SCALE: FULL

QTY.	DASH NO.	DESCRIPTION	PART NO.
1	28	ARM GUIDE	EA20468-28
1	27	DOOR PLATE	EA20468-27
1	26	DOOR PLATE	EA20468-26
1	25	ARM	EA20468-25
1	24	ROD	EA20468-24
2	23	LINK	EA20468-23
2	22	LUG	EA20468-22
1	21	DOOR COVER PANEL	EA21469-21
1	20	FLIGHT MANUAL SUPPLEMENT 2148, 2148-1	EA21469-20
1	20	FLIGHT MANUAL SUPPLEMENT 212, 412	EA21259-20
1	20	FLIGHT MANUAL SUPPLEMENT 205A, 205A-1	EA20569-20
1	20	FLIGHT MANUAL SUPPLEMENT 2048	EA20469-20
1	19	EAGLE SERVICE INSTRUCTION	EA20469-19
1	18	DOOR INNER SKIN	EA20469-18
1	17	ANGLE	EA20469-17
1	16	ARM REST ASSEMBLY	EA20469-16
1	15	INSTRUMENT PANEL	EA20469-15
1	14	WINDOW RETAINER	EA20469-14
1	13	INSTRUMENT WINDOW	EA20469-13
1	12	FORWARD RIB	EA20469-12
1	11	ANGLE	EA20469-11
1	10	REARWARD RIB	EA20469-10
1	9	ANGLE	EA20469-09
1	8	PLACARD - INSTRUMENT PANEL	EA20469-08
1	7	ANGLE	EA20469-07
1	6	ALUMINUM STRIP	EA20469-06
1	5	RUBBER STRIP	EA20469-05
1	4	DOOR LATCH ASSEMBLY	EA20469-04
1	3	PLEXIGLASS BUBBLE WINDOW	EA20469-03
1	2	INSTALLATION - DOOR MOUNTED INSTRUMENTS	
1	1	INSTALLATION - BUBBLE WINDOW	
2	1	DASH NO.	

BASIC CODE		DASH NO. FOR DIA		APPROVALS		DATE		AERO DESIGN LTD.	
D=DIMPLE		N=INFD HEAD NEAR SIDE		DRAWN: E. BURGOIN		26 AUG 91		CONSULTING ENGINEERS, TRANSPORT CANADA APPROVAL, 1040 BAYVIEW ROAD N.E., CALGARY, AL. T2B 1Y9	
DGT = # OF SHEETS TO BE DIMPLED		F=INFD HEAD FAR SIDE		CHECKED:					
C=COUNTERSINK		DASH NO. FOR LENGTH		STRESS:					
BASIC CODES:		✦ INSTALL NEW RIVET		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TOLERANCES ON:		EAGLE COPTERS LTD.	
BA = MS20470AD		✦ REMOVE/REPLACE RIVET		DECIMALS		ANGLES		825 MCTAVISH ROAD N.E., CALGARY, ALBERTA, T2B 7G9	
BB = MS20426AD		✦ EXISTING RIVET		X.XXX ±0.010		±1/2°		BELL 204, 205, 212 & 214	
LZ = NAS1097AD				X.XX ±0.03				VERTICAL REFERENCE DOOR	
CX = MS2047000				X.X ±0.1				INSTALLATION	
								SCALE AS NOTED	
								DWG. NO.	
								A1	
								D2046901	
								SHEET 1 OF 3	
								REV.	
								5	